In the Claims:

Please amend the claims as follows.

What is claimed is:

1. (Original) A method for reformatting a digital source image having a number of pixels defining an original format to a destination image in a new format having a number of pixels, wherein the number of pixels of the new format is greater than the number of pixels in the original format, the method comprising:

upconverting the number of pixels in the original format to the number of pixels in the new format using adaptive filtering.

2. (Original) The method according to claim 1, wherein the digital source image is a digital video image.

3. (Original) The method according to claim 2, wherein the digital video image is part of a set of digital video images.

4. (Original) The method according to claim 3, wherein the step of upconverting is performed on all of the digital video images in the set of digital video images.

5. (Original) The method according to claim 1, wherein the method is performed on a computer processor.

6. (Original) The method according to claim 1, wherein the adaptive filtering is a space-variant approximation.

7. (Original) The method according to claim 1, wherein the adaptive filtering is an anisotropic approximation.

8. (Original) The method according to claim 1, wherein the adaptive filtering is both a space-variant approximation and an anisotropic approximation.

9. (Original) A method for reformatting at least a portion of a digital image in an old format to a converted image having a new format wherein the digital image and the converted image have the same reference system, wherein the digital image has dimensions of length and width, the digital image has an aspect ratio, and the digital image having a plurality of intensity values representative of an image, the method comprising:

normalizing the aspect ratio of the digital image to that of the new format;

defining a window of points encompassing a plurality of intensity values from the digital image;

estimating a gradient at a point within the window wherein the gradient has a magnitude and a direction;

selecting a polynomial to represent the estimated gradient,

estimating coefficients associated with the polynomial; and

determining a value for the point in the new format within the window based upon the polynomial and the coefficients.

10. (Original)The method according to claim 9, further comprising:

quantizing the value.

11. (Original) The method according to claim 9, wherein the order of the polynomial is larger, substantially in the direction of the gradient and smaller in the direction substantially orthogonal to the gradient.

12. (Original) The method according to claim 9, wherein values are calculated for all points within the new format by repeating the acts of defining a window, estimating a gradient, selecting an ordered polynomial, estimating coefficients, and determining a value wherein in the step of defining a window a new window is defined.

13. (Original) The method according to claim 9, further comprising defining a second window wherein the coefficients are calculated based on the intensity values in the second window.

14. (Original) The method according to claim 9, wherein in defining a window, the window contains at least three points having associated intensity values.

15. (Original) The method according to claim 9, wherein estimating a gradient is achieved using at least three points having associated intensity values.

16. (Original) The method according to claim 9, wherein the polynomial selected for a window is used to determine values in the new format for all points within the window.

17. (Original) The method according to claim 12, wherein for each point, the value in the new format is recalculated based upon coefficients and polynomials determined at other points.

18. (Original) The method according to claim 12, wherein the value of each point in

the new format is recalculated using the coefficients and polynomial determined at least at one other point in the new format to determine a new value for the point and an average of the new value and the value is taken.

19. (Original) A method for reformatting an original image to a converted image, the original image having a format defined by a number of rows and columns of pixels describing an aspect ratio, the original image having a total number of pixels, the converted image having a converted format defined by a number of rows and columns, the converted image having a total number of pixels wherein the total number of pixels of the converted image is greater than the total number of pixels of the original image, each pixel in the original image defined by a location relative to the format and each pixel in the converted image defined by a location relative to the converted format, the method comprising:

normalizing the aspect ratio of the original image to that of the new format; and

adaptively filtering the original pixels to determine all pixels in the converted format.

20. (Original) A method for reformatting a digital image having a number of pixels having associated digital data, the digital image having an associated length, width and aspect ratio defining an original format to a destination image having a number of pixels, the destination image having an associated length, width and aspect ratio defining a new format, wherein the number of pixels of the new format is greater than the number of pixels in the original format, the method comprising:

normalizing the aspect ratio of the original image to that of the destination image; and

adaptively interpolating the digital data to produce new digital data for each pixel in the new format.

21. (Original) A method for reformatting a digital image having a number of pixels having associated digital data, the digital image having an associated length, width and aspect ratio defining an original format to a destination image having a number of pixels, the destination image having an associated length, width and aspect ratio defining a new format, wherein the number of pixels of the new format is greater than the number of pixels in the original format, the method comprising:

normalizing the aspect ratio of the original image to that of the destination image; and

adaptively smoothing the digital data to produce new digital data for each pixel in the new format.

22. (Original) A computer program product for use on a computer system for reformatting a digital image having a number of pixels defining an original format to a new format having a number of pixels, wherein the number of pixels of the new format is greater than the number of pixels in the original format, the computer program product comprising a computer usable medium having computer readable program code thereon, the computer readable program code comprising:

computer code for upconverting the number of pixels in the original format to the number of pixels in the new format using adaptive filtering.

23. (Original) A computer program product according to claim 22, wherein the adaptive filtering is a space-variant approximation.

24. (Original) A computer program product according to claim 22, wherein the adaptive filtering is an anisotropic approximation.

25. (Original) A computer program product according to claim 22, wherein the adaptive interpolation is both a space-variant approximation and an anisotropic approximation.

26. (Original) A computer program product for use on a computer system for determining a value for a point in a destination image having a new format from a source image in an old format wherein the destination image and the source image have the same reference system, wherein the source image has an aspect ratio and the source image is having a plurality of digital data representative of an image, the computer program product comprising a computer usable medium having computer readable program code thereon, the computer readable program code comprising:

computer code for normalizing the aspect ratio of the source image to that of the new format;

computer code for defining a window of points encompassing a plurality of digital data in the source image;

computer code for estimating a gradient at a point within the window;

computer code for selecting an ordered polynomial to represent the estimated gradient; and

computer code for determining at least one value for the point in the window representative of the new format based upon the polynomial.

27. (Original) The computer program product according to claim 26, wherein the order of the polynomial is larger in the direction of the gradient and smaller in the direction orthogonal to the gradient.

28. (Original) The computer program product according to claim 26, wherein a second window is used and the coefficients are calculated based on digital data in the second window.

29. (Original) A computer program product according to claim 26, further comprising: computer code for continuing to re-execute the computer code for defining a window, the computer code for estimating a gradient, the computer code for selecting an ordered polynomial, and the computer code for determining at least one value for a point within the window, until all points in the new format have associated values.

30. (Original) A computer program product according to claim 26, wherein the computer code for defining a window defines a new window upon each re-execution.

31. (Original) The computer program according to claim 29, wherein for all points from the new format within the window the value for each point is determined using the same polynomial.

32. (Original) The computer program according to claim 29, wherein for each point from the new format the value associated with that point is recalculated based upon coefficients of a polynomial determined at least one other point.

33. (Original) The computer program according to claim 29, wherein the at least one value of each point is recalculated using the coefficients and polynomials determined in other windows to determine a new value for the point by averaging the new value and the value.

34. (Original) The computer program product according to claim 26, further comprising:

computer code for determining coefficients of the polynomial based upon digital data from the source image.

35. (Original) The computer program product according to claim 34, wherein the computer code for determining coefficients further comprises computer code for selecting a second window containing digital data from the source image.

36. (Original) A computer program product for use on a computer system for reformatting an original image having an aspect ratio to a converted image having an aspect ratio, the original image having a format defined by a number of rows and columns of pixels, the original image having a total number of pixels, the converted image having a converted format defined by a number of rows and columns, the converted image having a total number of pixels wherein the total number of pixels of the converted image is greater than the total number of pixels of the original image, each pixel in the original image defined by a location relative to the format and each pixel in the converted image defined by a location relative to the converted format, the computer program product comprising a computer usable medium having computer readable program code thereon, the computer readable program code comprising:

computer code for normalizing the aspect ratio of the original image to that of the converted format; and

computer code for adaptively filtering all missing points in the converted image.

37. (Original) The computer program product according to claim 36, wherein the adaptive filtering is adaptive smoothing.

38. (Original) The computer program product according to claim 36, wherein the adaptive filtering is adaptive interpolation.

39. (Original) The method according to claim 9, wherein in defining a window, the size of the window is space-variant.

40. (Original) The method according to claim 39, wherein the size of the window is smaller for proximate intensity values having a low frequency of change.

41. (Original) A method for reformatting at least a portion of a digital source image having a number of pixels defining an original format to a destination image in a new format having a number of pixels, wherein the number of pixels of the new format is greater than the number of pixels in the original format, the method comprising:

estimating a gradient at a point within a window, the window encompassing a

plurality of intensity values from the source image; and

using a polynomial to determine a value for the point in the new format within the window, the polynomial being based on the gradient.